

REMARKS

At the outset, Applicant thanks the Examiner for the thorough review and consideration of the pending application. The Office Action dated January 26, 2005 has been received and its contents carefully reviewed.

Claims 1 and 11 are currently amended. Accordingly, claims 1-7, 10-17, 20, and 21 are currently pending. Reexamination and reconsideration of the pending claims is respectfully requested.

In the Office Action, the Examiner rejected claims 1, 5, 6, 10, 11, 20, and 21 under 35 U.S.C. § 103(a) as being unpatentable over Wessells et al. (U.S. Patent No. 3,661,660) in view of Toshima (U.S. Patent No. 6,146,469). This rejection is respectfully traversed and reconsideration is requested.

As set forth at M.P.E.P. § 2143.03, a *prima facie* case of obviousness is established when, among other things, all the claim limitations are taught or suggested by the prior art.

Rejecting claims 1 and 11, the Examiner cites Wessells et al. as teaching “an etching bath (10) containing ... ultrasonic generators (14, 16, and 18)” and states that Figure 1 of Wessells et al. “illustrates that the ultrasonic generators ... are located in the interior of the etching bath.” Applicant respectfully submits, however, that neither Wessells et al. nor Toshima, singly or in combination, teach or suggest all the limitations as presently recited in claims 1 and 11. For example, neither Wessells et al. nor Toshima, singly or in combination, teach or suggest “an ultrasonic oscillator generating ultrasonic vibration on multiple surfaces of said substrate,” as presently recited in claim 1, or “an ultrasonic oscillator generating ultrasonic vibration on a surface of said substrate, wherein the ultrasonic vibration emanates from bottom and side surfaces of the etching bath,” as presently recited in claim 11. For at least these reasons, Applicant respectfully submits that claims 1 and 11 are nonobvious with respect to Wessells et al. in view of Toshima and, therefore, requests withdrawal of the present rejection of claims 1 and 11 under 35 U.S.C. § 103(a).

Claims 5, 6, 10, 20, and 21 variously depend from claims 1 and 11 and, therefore, include at least the aforementioned limitations recited therein. Accordingly, Applicant

respectfully submits that claims 5, 6, 10, 20, and 21 are nonobvious with respect to Wessells et al. in view of Toshima at least by virtue of their various dependencies from claims 1 and 11. Consequently, Applicant requests withdrawal of the present rejection of claims 5, 6, 10, 20, and 21 under 35 U.S.C. § 103(a).

In the Office Action, the Examiner rejected claims 2, 7, 14, and 17 under 35 U.S.C. § 103(a) as being unpatentable over Wessells et al. in view of Toshima and further in view of Schnegg et al. (U.S. Patent No. 4,971,654). This rejection is respectfully traversed and reconsideration is requested.

Claims 2, 7, 14, and 17 variously depend from claims 1 and 11 and, therefore, include at least the aforementioned limitations recited therein. As established above, Wessells et al. in view of Toshima fails to render claims 1 and 11 nonobvious under 35 U.S.C. § 103(a). Schnegg et al. fails to cure the above-cited deficiencies of Wessells et al. in view of Toshima as applied to claims 1 and 11. Therefore, Applicant respectfully submits that claims 2, 7, 14, and 17 are nonobvious with respect to Wessells et al. in view of Toshima and further in view of Schnegg et al. at least by virtue of their various dependencies from claims 1 and 11. Consequently, Applicant requests withdrawal of the present rejection of claims 2, 7, 14, and 17 under 35 U.S.C. § 103(a).

In the Office Action, the Examiner rejected claims 3, 4, 15, and 16 under 35 U.S.C. § 103(a) as being unpatentable over Wessells et al. in view of Toshima and further in view of Schnegg et al. and Roberts (U.S. Patent No. 3,556,161). This rejection is respectfully traversed and reconsideration is requested.

Claims 3, 4, 15, and 16 variously depend from claims 1 and 11 and, therefore, include at least the aforementioned limitations recited therein. As established above, Wessells et al. in view of Toshima fails to render claims 1 and 11 nonobvious under 35 U.S.C. § 103(a). As also established above, Schnegg et al. fails to cure the above-cited deficiencies of Wessells et al. in view of Toshima as applied to claims 1 and 11. Moreover, Roberts fails to cure the above-cited deficiencies of Wessells et al. in view of Toshima as applied to claims 1 and 11. Therefore, Applicant respectfully submits that claims 3, 4, 15, and 16 are nonobvious with respect to Wessells et al. in view of Toshima and Schnegg et al. and further in view of Roberts at least by

virtue of their various dependencies from claims 1 and 11. Consequently, Applicant requests withdrawal of the present rejection of claims 3, 4, 15, and 16 under 35 U.S.C. § 103(a).

In the Office Action, the Examiner rejected claims 2, 7, 12-14, and 17 under 35 U.S.C. § 103(a) as being unpatentable over Wessells et al. in view of Toshima and further in view of Shin et al. (GB Patent No. 2323334). This rejection is respectfully traversed and reconsideration is requested.

Claims 2, 7, 12-14, and 17 variously depend from claims 1 and 11 and, therefore, include at least the aforementioned limitations recited therein. As established above, Wessells et al. in view of Toshima fails to render claims 1 and 11 nonobvious under 35 U.S.C. § 103(a). Shin et al. fails to cure the above-cited deficiencies of Wessells et al. in view of Toshima as applied to claims 1 and 11. Therefore, Applicant respectfully submits that claims 2, 7, 12-14, and 17 are nonobvious with respect to Wessells et al. in view of Toshima and further in view of Shin et al. at least by virtue of their various dependencies from claims 1 and 11. Consequently, Applicant requests withdrawal of the present rejection of claims 2, 7, 12-14, and 17 under 35 U.S.C. § 103(a).

In the Office Action, the Examiner rejected claims 1, 2, 5-7, 10-14, 17, 20, and 21 under 35 U.S.C. § 103(a) as being unpatentable over Shin et al. in view of Takeuchi et al. (JP Patent Pub. No. 11-006081) and Nakayama et al. (JP Patent Pub. No. 55-130839). This rejection is respectfully traversed and reconsideration is requested.

As mentioned above, a *prima facie* case of obviousness is only established when, among other things, all the claim limitations are taught or suggested by the prior art. (see M.P.E.P. § 2143.03)

Rejecting claims 1 and 11, the Examiner acknowledges that Shin et al. does not teach “an ultrasonic generator located in the interior of the etching bath.” Attempting to cure this deficiency, the Examiner relies upon Nakayama et al. as teaching “an ultrasonic generator located in the interior of the etching bath” and concludes that it would have been obvious “provide the etching bath of Shin et al. with the ultrasonic generators of Nakayama et al. ... to enhance the stirring effect imparted to the etchant at the substrate surface, and to thereby

improve etching uniformity.” Applicant respectfully disagrees with respect to the Examiner’s motivation in modifying Shin et al. using Nakayama et al. Nevertheless, Applicant respectfully submits that neither Shin et al., Takeuchi et al., nor Nakayama et al., singly or in combination, teach or suggest all the limitations as presently recited in claims 1 and 11. For example, neither Shin et al., Takeuchi et al., nor Nakayama et al., singly or in combination, teach or suggest “an ultrasonic oscillator generating ultrasonic vibration on multiple surfaces of said substrate,” as presently recited in claim 1, or “an ultrasonic oscillator generating ultrasonic vibration on a surface of said substrate, wherein the ultrasonic vibration emanates from bottom and side surfaces of the etching bath,” as presently recited in claim 11. For at least these reasons, Applicant respectfully submits that claims 1 and 11 are nonobvious with respect to Wessells et al. in view of Toshima and, therefore, requests withdrawal of the present rejection of claims 1 and 11 under 35 U.S.C. § 103(a).

Claims 2, 5-7, 10, 12-14, 17, 20, and 21 variously depend from claims 1 and 11 and, therefore, include at least the aforementioned limitations recited therein. Accordingly, Applicant respectfully submits that claims 2, 5-7, 10, 12-14, 17, 20, and 21 are nonobvious with respect to in view of Takeuchi et al. and Nakayama et al. at least by virtue of their various dependencies from claims 1 and 11. Consequently, Applicant requests withdrawal of the present rejection of claims 2, 5-7, 10, 12-14, 17, 20, and 21 under 35 U.S.C. § 103(a).

In the Office Action, the Examiner rejected claims 3, 4, 15, and 16 under 35 U.S.C. § 103(a) as being unpatentable over Shin et al. in view of Takeuchi et al. and Nakayama et al. and further in view of Schnegg et al. and Roberts. This rejection is respectfully traversed and reconsideration is requested.

Claims 3, 4, 15, and 16 variously depend from claims 1 and 11 and, therefore, include at least the aforementioned limitations recited therein. As established above, Shin et al. in view of Takeuchi et al. and Nakayama et al. fails to render claims 1 and 11 nonobvious under 35 U.S.C. § 103(a). Moreover, both Schnegg et al. and Roberts fails to cure the above-cited deficiencies of Shin et al. in view of Takeuchi et al. and Nakayama et al. as applied to claims 1 and 11. Therefore, Applicant respectfully submits that claims 3, 4, 15, and 16 are nonobvious with respect to Shin et al. in view of Takeuchi et al. and Nakayama et al. and further in view of

Schnegg et al. and Roberts at least by virtue of their various dependencies from claims 1 and 11. Consequently, Applicant requests withdrawal of the present rejection of claims 3, 4, 15, and 16 under 35 U.S.C. § 103(a).

Applicant believes the foregoing amendments place the application in condition for allowance and early, favorable action is respectfully solicited.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at (202) 496-7500 to discuss the steps necessary for placing the application in condition for allowance. All correspondence should continue to be sent to the below-listed address.

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. §1.136, and any additional fees required under 37 C.F.R. §1.136 for any necessary extension of time, or any other fees required to complete the filing of this response, may be charged to Deposit Account No. 50-0911. Please credit any overpayment to deposit Account No. 50-0911. A duplicate copy of this sheet is enclosed.

Dated: April 18, 2005

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